

Using improvisational exercises in general education to advance creativity, inventiveness and innovation

Peter H. Hackbert

(Faculty of General Studies, Berea College, Berea 40404, US)

Abstract: Creativity is the process of generating something new or original that has value to an individual, a group, an organization, an industry or a society. Improvisational theater techniques are used to enhance creative thinking and action in a variety of disciplines as broad as education, theater, dance, painting, writing and music, law, business, and most recently, entrepreneurship. This paper describes an academic setting that draws upon the definition, techniques and improvisational methods as prerequisites for a progression of increased experiences of idea generation, new product invention and innovation. Improvisation is used as a critical ingredient to enhance creativity for undergraduate liberal arts students in a freshman general studies course leading to student product development and field-based innovations.

Key words: creativity; improvisation; invention; entrepreneurial learning; general education; ball games

1. Introduction

This paper will provide a brief description and definition of improvisation and provide a summary of the description and methods of a general studies course (GST 186: Creativity, inventiveness and innovation) at Berea College. And the paper will describe the specific methods applied to introduce creativity and inventiveness to the students. Student perspectives describe the outcomes of the improvisation techniques as viewed in their reflective journals and formal assessments of the course compared to other general education courses. Suggestions for incorporating simple improvisational techniques into everyday activities and educational settings are offered in the conclusion.

2. Creativity

Creativity is the process of generating something new or original that has value to an individual, a group, an organization, an industry or a society (Young, 1985). Improvisation is viewed as a master key to creativity (Nachmanovitch, 1990). Human capabilities to “make things up” are critical in the context of human evolution, as making things up is a creative act. Mirvis (1998) described the evolutionary origins of improvising prompted by memories of the ancestors’ confrontations with voracious animals, threatening global climates, the vagaries of hunting and gathering, and the array of modern day challenges confronting the arts, sciences, technology and the world of commerce. Mirvis (1998) reminded people of the discontinuities and need for a creative response, human ingenuity, and collective, creative interactions. Improvising is found throughout nature, he observed, such as when chimps refashion sticks to snare tasty termites, wolves hunt in new formations to avoid human contact or bees

Peter H. Hackbert, Ph.D., director, entrepreneurship for the Public Good Program, Faculty of General Studies, Berea College; research fields: creativity, innovation, general education, entrepreneurship education, new venture formation.

socialize a queen in novel ways so as not to get consumed by her.

Improvisation, or “improv” as it is commonly called, is defined as “intuition guiding action in a spontaneous way” (Crossan & Sorrenti, 1997). Two dimensions of improvisation are intuition and spontaneity, which Crossan and Sorrenti (1997) used to differentiate improvising from other strategic activities (e.g., planning, visioning and transacting). Chase (1988) cited “improv” as “imagination guiding action in an unplanned way”. Solomon (1986) included the notion that intuition incorporates creation and execution at the same time, while Weick (1993) hinted that “improv” gives organizations the ability to “make do” with available resources. Improvisation is by no means a haphazard process; it should not be viewed as “anything goes” or “winging it”. Instead, it should be accepted as a process governed both by freedom and form. The emphasis within improvisation is on action and continuous experimentation, not on obsessive planning (Perry, 1991). “You can’t improvise on nothing, you’ve gotta improvise on something” is a noted statement by jazz musician Charles Mingus (Kernfeld, 1995). Alan Arkin, an academy award winning actor, said that, “improvisation has been crucial to my whole life; it’s what we’re doing all the time” (Sager, 2007). Improvisational techniques have been used to enhance creative thinking and action in a variety of disciplines as broad as education (Willdorf, 2000; Kelley, Brown & Crawford, 2000; Lobman, 2002; Rice, 1985; Sawyer, 2000), theater (Boal, 1992; Johnstone, 1980; Spolin, 1963), dance (Banes, 1980), and business (Crossan & Sorrenti, 1997; Kanter, 2002; Lubins, 2007; Palmer, 1996; Weick, 1998). Adoption of the “improv” techniques has proven to advance effectiveness in enhancing creative, innovation thinking and personal growth for individuals at all ability levels (Lemons, 2005).

3. Improvisational theatre

Improvisational theatre pre-dates the invention of writing, since long before people started writing scripts, they were telling stories by acting them out. Over the centuries, there have been many different improvisational styles. The most direct ancestor of modern “improv” is probably the *Commedia Dell’Arte*, which was popular throughout Europe for almost 200 years starting in the mid-1500s. Troupes of performers would travel from town to town, presenting shows in the public squares and on makeshift stages. They would improvise their own dialogue within a framework provided by a set scenario.

Improvisational theater can be compared to traditional theater. Traditional theater uses a script to guide the actors and the performance with sets, costumes and props to enhance the story lines. Actors are selected for their likeness to the particular characters portrayed, and a director provides the leadership to ensure that all elements support one another. The audiences have no input into the performance. With improvisational theater, there are no sets, costumes, props or scripts, and the actors play a variety of roles. The audiences participate in the performance by providing input into the story line. Rather than directing the performance in the traditional sense, the director helps the actors reflect on the performance. Improvisation provides a way to understand what it takes to be spontaneous and innovative. “Improv” exercises are used by actors to develop their skills. More recently, “improv” techniques have been adopted as a means to enhance organizational members’ capacity to be innovative and responsive. “Improv” approaches are reported to enhance organizations’ ability to learn faster than their competitors—to design faster cycle time, be smarter, and generate more innovative solutions. These dual requirements—increased speed and a higher degree of innovation—create a need for organizations and their members to operate more spontaneously, with more creativity and intuition applied to actions. “Improv” just offers such a solution. “Improv” is an outstanding example of “thinking outside the box”.

4. General education at Berea College

Berea College's mission is to educate and inspire students primarily from Appalachia to become service-oriented leaders. This has involved identifying students with high academic promise but limited financial resources for over 150 years. In pursuit of this mission, Berea College has used its \$1.1 billion endowment to provide each student admitted to the college with a full tuition scholarship for the 4 years they are enrolled and reside at the college. For the freshmen, the first semester course and a class in creativity, inventiveness and innovation can set a tone of academic expectation and standards for inquisitive learning for the incoming class members, and help students to confront their passion and apply their entrepreneurial leadership talents in the service for others. Berea College offers a liberal education by helping students develop the skills, acquire the knowledge and nurture the habits and attitudes that will enhance their ability to live reflectively and responsibly. This education should result in personal satisfaction, as well as a growing awareness of one's relations and obligations to the larger communities in which one participates. Believing that narrow specialization in the undergraduate years can inhibit growth and restrict opportunities, the college emphasizes a broad range of subjects and approaches to learning. The general education program is where the goals of liberal education are explicitly addressed for all students. It is designed to help students: (1) develop their abilities to think critically and communicate effectively through writing and speaking; (2) deepen their understanding of their cultural heritage, including religion, history, the arts and the natural and social sciences; and (3) cultivate their appreciation of human diversity and their capacity for moral reflection.

GST186 is a general education elective course entitled: "creativity, inventiveness and innovation: the source and skills for artists, mavericks, deviants, thinkers and (thought) leaders". The intention of the course is to examine how unconventional ideas, groundbreaking products and group processes changed the world. This source of knowledge and skill set can become the undergraduate's personal tools for the 21 century—a better way to lead, to compete and to succeed. The course requires reading and discussion and uses exercises, field-based projects and group process techniques to strengthen the goal of fostering creativity leading to actionable plans. These experiences will make students aware of their untapped potential in their work, their intentions and their life.

This course is divided into 3- or 5- week long modules: creativity, inventiveness and innovation. Module 2 is described in Hackbert (2008) and module 3 in Hackbert (2009). This paper describes module 1. The course uses the mnemonic PROBE to discover students' hidden talents: (1) problems—understanding how to identify what a problem or need really is; (2) reverse—encouraging creativity through the identification and reversal of commonly held rules, myths, and well-accepted organizational processes; (3) observation—using observation and anthropological methods to understand others and their perspectives; (4) brainstorming—idea generation (including bad ideas); and (5) evaluation—creative, strategic filtering and assessment of ideas.

Upon completion of this course, a student should have accomplished 3 outcomes: (1) experiencing a framework for understanding how to think creatively, along with specific methods to jumpstarting creative thinking, inventing new products and welcoming an innovative mindset; (2) exposing some cutting edge, creative methods, tools and approaches to develop innovative solutions to common problems; and (3) having insights on how to collaborate with a team or hot group to develop creative and innovative ideas, inventions and solutions to problems. The active learning course format as contrasted to other undergraduate courses may appear unconventional, using a variety of instructional methods, including: (1) discovery based learning; (2) individual and hot group projects (Kelley, 2001); (3) creativity exercises and tools; (4) live cases/stories and guests; and (5) team teaching, which

includes a team of students responsible for: (1) studying a particular problem-solving or creativity technique; and (2) teaching one application (creative, inventive or innovative) to the class in a 20-minute exercise. Five-week long module 1, creativity, exposed students to guiding principles in advancing creative energy, thought leaders currently advancing the importance and theory behind creativity, and practical exercises to transform knowledge into action. The module's aim was to develop new and lasting attitudes of personal responsibility and the intentions to be a highly successful and creative undergraduate student while at Berea College. The tools learned and the skills for transferring these tools and attitudes could provide continued growth and problems-solving long after the students moved to other courses and majors while at Berea College. The emphasis was placed on transforming first-year students to become engaged and involved in applied innovation.

Students read material from Florida (2002), Berkun (2007), Higgins (2006), Ray and Myers (1986) and Kelley (2001). The author introduced pedagogical models integrating theory and practice learned while attending a National Collegiate Inventors and Innovator Alliance Workshop at Stanford University in 2001. Experiential learning theory can magnify the importance of learning within the process of entrepreneurship (Corbett, 2005).

Experiential, entrepreneurial and pedagogical principles were previously tested while at a small liberal arts college and at a major research university (Hackbert, 2006a; 2006b; 2006c; 2005). These approaches and the applied nature of the course included exercises, projects and group process techniques introduced in the first week of class and selectively repeated in every session thereafter. The class met at 8:00 A.M. on Tuesday and Thursday mornings and as the class sessions progressed, "improv" "warm up exercises" were introduced by the instructor and led by class members to start each session. These experiences were designed to make students aware of their untapped potential for creativity in both work and life. In this environment, barriers to successful teaching, learning and professional growth were explained, modeled and used as energy for change.

Lemons (2005) described the utilitarian diversity of improvisation techniques across diverse fields. Seven elements of improvisation emerged from his interview data including: communication, community and teamwork, risk and challenge, safety, honest emotional expression, self-actualization and joy. The next section describes how these elements emerge from the exercises described below.

5. Improvisational exercises

Improvisational exercises are structural elements that form the basis of improvisational comedy and theater. Exercises are used to train actors and spark the spirit of imagination, subconsciously think and spontaneity. The exercises can be used as adjuncts to acting, break-out sessions for personal trainers, or the key elements of an "improv" comedy show. Each of the "improv" exercises is explained in detail below.

5.1 Name game exercise

This exercise is designed to demonstrate the improvisation rules and GST 186 class practices for the entire semester. The first exercise was executed on the first day of class. It communicates the intention of the course as an experiential course. The leader forms a circle of class members and asks each person to go around the circle, one at a time stating their names and why they are enrolled in the class in 1 or 2 sentences. The leader then asks the class to say, "I know everyone's name". The leader draws attention to how each class member feels after repeating the statement. Some class members state that they feel uncomfortable and "fake", because in fact, while they listened to each class member announce their names and reasons for enrolling in the class, they could not remember their classmates' names a short time later. The instructor announces that the class will repeat the

exercise kinesthetically, and report other introductions.

Each class member, one at a time announces his/her name, and at the same time, demonstrates a kinesthetic sign, such as a motion of something they like to do or an emphatic action in conjunction with their announced names. The next class member repeats the previous person's name and the kinesthetic sign or emphatic action, then their names with a kinesthetic sign or action. This activity is completed until all class members in the class have taken a turn in the circle.

Should a class member make a mistake, the concept of Bozo the Clown and the Clown Bow with "TA TA" is introduced as the way in which class members and the leader will announce to others the mistake or error. The leader asks the class to say, "I know everyone's name" again. Class members report that the integration of the auditory and kinesthetic sign repeatedly increases the recall of class members' names. The name game introduces the concepts of reflection. The name game exercise also illustrates the recognition of diverse learning styles. Every student learns in very diverse ways. Pictures, illustrations and videos work for visual learners. Visual learners also are helped by opportunities for class materials to be summarized on charts. Kinesthetic learners learn best by moving and attaching physical meaning to other forms of information processing behaviors.

5.2 The function of the warm-up

In each class, there is always an element of "warming-up" as a way of priming the students to better receive information. One primary function of the class and "improv" technique exercises is not only warming up the class, but forging a community of learners. If they do something together, the class moves from a mere juxtaposition of unconnected individuals to a community of learners.

5.3 Bippity bippity bop

This warm-up "improv" exercise encourages the class members to laugh and create an open space for creativity. Forming a circle, one person placed in the center yells "bippity bippity bop" at someone in the circle, and that class member must reply with the word "bop" before the center person does. If the outlier does not succeed, they must switch places with the center person. Later in the exercise, other elements are added. For example, a class member in the center points to an outlier in the ring and states the name of an item, such as "elephant". The outlier that receives the distinction of being selected sticks his/her arm in front of his/her face and dangles it like an elephant trunk. The people on either side of the chosen outlier must make the ears of the elephant. So the person on the left side uses his/her left arm to touch his/her head, and the person on the right uses his/her right arm to form the opposite ear. The elephant must be formed before the center person counts to 10. If the elephant does not have ears and a trunk by the time number 10 is called, then the outlying class member has to replace the person in the center of the circle. Whichever class member is responsible for the part that was not formed has to go into the center, i.e., if the elephant has a trunk and a right ear but no left ear, then the outlier to the left of the trunk goes into the circle.

5.4 Human chain

This exercise is much more of a class community building exercise than one just focuses on improvisation. Class members sit on the floor in a circle with their arms linked in a circle. As a human chain, then they must figure out how to stand up together. As the class size increases, members in the chain increase and the more challenging the "improv" exercise. Class members need to work together to solve the human chain problem, and confront the strengths and weaknesses of each class member.

5.5 Tell a story

In this "improv" exercise, a class member steps into the middle of the circle and starts a story with a sentence

or two. Other members of the class take turns stepping in to continue the story when they feel it is appropriate. This is a great exercise to practice paying attention to classmates' ideas and building upon them, letting go of their own ideas when the story turns in a different direction, and understanding when not to "step into the middle". An alternative to this exercise is that each class member in the circle contributes a word to the story. For example, if the first person to speak says "Sarah", the next person could say "set", the next person could say "out", and so on. This is often the most commonly used of all the "improv" exercises. The best way to help the players build stories is to try and keep them in the present tense. In improvisation, present tense always works best. The "word at a time" stories should also make sense. The players need to be listening to the story as it develops. Instead of offering a witty word that will make everyone laugh, they should add the next most logical word. This "improv" exercise takes control away from those class members that tend to drive scenes. If the sentences are going on too long, the teacher can allow any of the class in the circle to call out "period" to end the sentence. Banning "and" and "but" are also good ways to keep people from prolonging things and leading to properly formed sentences.

6. Ball games

The improvisational exercises described here are called ball games. They are easy to teach and utilize in group problem-solving sessions. Ball games are also flexible and easily modified to suit different educational and problem-solving purposes.

Ball games are best played in an open space that allows a group of 10-15 participants to stand comfortably in a circle. While they can be played by as few as two people, about 15 appears optimal in a class setting. Larger classes may form more than one circle. Participants should be relaxed and attentive. Stretching and relaxation exercises are useful warm-up activities. Because there is a high degree of risk and uncertainty involved in the game, it is imperative to create a safe environment. The ball games accomplish this by accepting all offers. There is no negation and nothing is rejected. Individuals accept the offer made to them, honor it and build on it. Nothing in the nonthreatening environment is considered as a "mistake". Ball games all involve playing catching with an imaginary ball. The best way to start is to focus on the ball handling technique.

6.1 Mime ball

In 1993, Faste introduced the game of mime ball, played with an imaginary basketball. The person with the ball passes it to another person, who catches it and then tosses it to another person. Each player simulates the motions and gestures appropriate to the ball size and weight. A 2-handed pass or scooped-style throw and a solid 2-handed catch that absorbs the imaginary impact work best. If a group has a hard time duplicating these motions, a real ball may be used as a reminder.

The first difficulty with playing mime ball is knowing who is supposed to catch the ball. If the intended receiver is not clearly indicated, players on either side of the recipient will try to catch the ball, too. To avoid this, the thrower must establish firm eye contact with the intended receiver before throwing the ball. It also helps if the thrower always makes it clear that he is holding a ball in his hands, in that way, each potential recipient will know where a ball may come from. Communication becomes the key element within this improvisational exercise. The ongoing exercise requires that each member listens, responds and incorporates what other members are doing, saying and playing to participate and contribute to a mutual and collaborative outcome.

This simple game reveals the key ingredient of subsequent games. All players must be full participants, there can be no spectators, and everyone must attend. As a cooperative effort, the ball game is an integration of ideas

and leads to a new product or process creation. Each player must commit and engage, contributing to an emerging structure that is built on by the group and creates possibilities for others. This attention is of a special sort. Anxiety, concern or over eagerness will inhibit the ball games success. The correct mental state is one of relaxed attention, and the best posture is slightly crouched, knees bent, ready to move in any direction with arms hanging loosely at the side.

In addition to attending, everyone must play with the intention of moving the game forward. In particular, the passer must intend to have the ball successfully caught by another person. Eye contact is crucial. If a person does not catch the ball, the thrower must continue to assume responsibility for the ball and throw again. Alternatively, a player on either side of the intended receiver might pick up the “dropped ball” and continue the game. In short, everyone is responsible for moving the game along.

6.2 Sound ball

Another “improv” game is sound ball. A player throws as before, using clear passing gestures and eye contact, but this time releases a “sound ball”. That is, the thrower makes a sound as they throw the imaginary ball. The sound is completed as the ball is released. As the recipient makes the catching motion, they repeat the sound exactly as they heard it, then quickly turn toward someone else, establish eye contact and throw a new sound which comes spontaneously with the gesture of throwing. When a group has this game moving along smoothly, the leader can “throw in” another sound ball and another. A well-practiced and alert group can keep 3 or more sound balls going at once.

6.3 Word ball

Word ball follows sound ball. Everything is as before, except that words are now tossed instead of sounds. As players become more skilled, eye contact can be established during the throwing motion. The word is said at the moment of release. The recipient catches the word and repeats the word exactly as he/she heard it. The new word should be the first word that pops into his/her head after he/she has caught the previous ball and as he/she throws his/her own.

6.4 Other ball games

As it has been seen, there are a variety of opportunities for creative expression. Constraints are easily added to the games already mentioned. In the last letter—first letter game, each person tosses a new word that begins with the last letter of the word he/she caught. It is very hard to stockpile with this constraint. Another is alphabet ball, where each word has to begin with the next letter of the alphabet. By playing this game often, the player will find class members reading the Q and Z entries in the dictionary and stockpiling in a perhaps acceptable form.

The constraints given to games can be more than intellectual, and they can be potentially conflicting. In the attitude ball games, sounds, words or themes are tossed with an attitude: hard or soft, mean or loving, sad or happy, etc.. The receiver must catch the message and the accompanying attitude. Words and attitudes may conflict; “apple pie” may be tossed with repulsion, “valentine” with contempt, “explosion” with a whisper. Clearly, the challenge here is for players to be receptive to both the content and the expression.

Gibberish ball is another game requiring careful listening. There is the obvious form where gibberish words are tossed and caught, then the receiver tosses a new invented word of his/her own. In a more interesting form, gibberish dictionary, the receiver catches the word while repeating it, but then gives the word a definition before tossing a gibberish word to another person. Another form is foreign language gibberish where the leader can change the national origin of the gibberish from Spanish to Italian to Swedish. In addition to being hilarious, this game reveals a number of unexpected abilities among the players.

7. Ball game difficulties and problems

The problems which arise during the playing of these games reveal much about the nature of creative behavior. The first issue, which is by no means trivial, has already been mentioned: Each individual must be willing to play the game. Commitment is needed and simply understanding the game is not enough. Students must play the game with the intention of becoming skilled at it.

The players should be relaxed enough to adapt to the game's changing pace. Everyone should be less concerned with getting it right and more concerned with moving the game along. For example, players often fail to hear a sound or word clearly when the ball is thrown to them. There is a tendency to ask the person to repeat the sound so as to get it correct, but this stops the game. It is better to keep the game moving smoothly along. Players should repeat what they heard as well as they can without hesitation. It is even more preferable to guess what was said than to stop the action. This exercise adds the element of honest emotional expression and staying spontaneous. When there is no time to plan and edit what the players are going to do or say, their first reactions and instincts are forced to the surface.

The objective is to maintain a constant flow, acting without concern for right and wrong in a state where time is inconsequential (Csikszentmihalyi, 1996). Indeed, players will find they actually hear better when they are not worried about being precisely accurate.

The central problem that arises during these games, especially word ball, occurs when the player starts to make a pass, but no word comes out of his/her mouth. The problem is not so much that there is no word to throw, but that players do not want to throw the word they think of. That is, they want to exercise controlling over the word, and they want to find a good one before throwing. Not knowing what to expect or what to say, and thus not having a set script, can be frightening. It puts the players in the brink of the unknown and ready to leap between risk and challenge.

What constitutes a suitable word depends on secondary and internal games the player is playing—often some kinds of image games. The person may wish to appear smart, creative, witty, imaginative or even profound. Or perhaps they have another image that they wish to project—macho, perhaps or sexy. On the other hand, they may simply wish to avoid appearing dumb, stupid or perhaps worst of all, ordinary.

Since control is hard to achieve in real time, players will begin to use a defense mechanism known as stockpiling. Stockpiling consists of thinking up suitable words to say while the player is not actively involved. This behavior is not difficult to recognize. For example, if a person is trying to project a creative image, the result is often words that are strange, wacky or even weird, in the mistaken belief that it will make them appear creative. Stockpiling subverts the game in the two ways. It diverts the player's attention away from the other players and the action of the game, and it guarantees that the word passed to the next player will have nothing to do with the context of the game of that moment. The word will ring false and lack the authenticity that comes from being in the flow of the group. "Improv" games are not about acting; they are about being fresh, honest and spontaneous. This is what provides their energy and makes them enjoyable, even exhilarating.

It is the leader's job to discourage stockpiling and encourage more productive strategies. This is best done by making sure it is safe for players to behave spontaneously. Laughter is fine, but ridicule is not. It should be clear that saying something obvious or ordinary is adequate. It is more than adequate—It is what is desired. People mistakenly believe that creativity involves being clever, rather than simply being themselves. It is acceptable to repeat something that has been heard recently or said before. Five spontaneous "mashed potatoes" is better than

one slow “Gila monster”. However, it should be made clear that defensive strategies designed to maintain control are only natural. People use them all the time. To overcome them, players should be encouraged to engage someone’s eyes and start the motion of throwing even before they have a word. The action itself helps a word come to life.

In concept ball, images created by combining 2 or more words are thrown. The image needs not to be imaginative: “Green peas” is as good as “charging African elephants”. Spontaneity is still the goal. This is also true for theme ball. Here the groups agree to a theme before beginning. Then all the words or concepts thrown are related to this theme. Examples of topics might be “national holidays” or “things I have done today”.

8. Improvisation as a prerequisite to brainstorming and inventing

If people were to change the name of the idea generating game of theme ball to problem ball, it is clear that this progression of exercises has led to a brainstorming session. IDEO, an award winning design firm responsible for helping develop innovations ranging from the Palm V PDA, to Steelcase’s Leap office chair, is a prime example of corporate brainstorming. Tom Kelley, IDEO’s CEO, has written a book entitled *The Art of Innovation*, in which he describes his firm’s approach to group brainstorming (Kelley, 2001). The rules for group brainstorming are: (1) sharpening the focus; (2) deferring judgment; (3) piggybacking and leapfrogging; (4) going for quantity; and (5) spacing remembers.

Sharpening the focus requires a well-honed problem statement. Deferring judgment requires not criticizing ideas as they are stated. Piggybacking means building on one person’s idea to create other ideas. Leapfrogging refers to jumping over the ideas of others to generate a new idea. Going for quantity requires throwing out ideas quickly, leapfrogging and piggybacking require do these freely without getting bogged down in lengthy discussion. Space remembers refer to writing down the flow of ideas in a medium visible to the group. The desired mental state is subconscious flow, accessing unedited ideas directly from one’s stored experience. While the goal may focus on a desired result, this is the same mental state fostered by the “improv” exercises the author has been discussing.

Perhaps one of the hardest things for an undergraduate general studies student to do is not to test or judge ideas at the same time as they are expressed. But the simple statement “defer judgment” does not convey enough active meaning. During the agreed upon brainstorming session, participants should gleefully abandon judgment. Furthermore, they should wholeheartedly embrace others’ ideas with enthusiasm and encourage extremes that some would deem stupid. The phrase “defer judgment” can also be seen as conciliatory; as if any idea is acceptable for the time being, but later people will apply judgment. Being creative selves need not to be an unnatural state. Even in people’s daily lives, they could all use more balance between intuition and logic as two equally useful states of mind. Problem-solving requires fresh ideas and informed judgment.

One reason for deferring judgment is difficult is that it implies giving up expertise, which is often the core of professional identity. The culture in particular encourages a one-dimensional sense of self. People are what they do. People are what they are experts in. Consequently, it is exceedingly difficult for experts, and particularly rigid or insecure ones, to give up passing judgment on ideas that lie within their domain. This issue of expertise is but one manifestation of the image problem mentioned earlier.

People are “safe” within the fortress of our images, and are reluctant to come out and give up control. However, creativity involves risk taking, a loss of control and security. When an activity is under control, it is not

risky. To reap the benefits of exercising creativity, people must be willing to give into spontaneity and their true selves as revealed through uninhibited improvisation.

9. Improvisational ball games which avoid possible problems

The improvisation games described in this paper provide a smooth transition from obvious games that are pure fun to problem-solving games that have a serious objective, but are often no less fun. When a group plays these games successfully in real time without stockpiling, the participants have no choice but to piggyback and leapfrog. Each person's mind will instantly think of a related word or theme, or will be triggered into inventing a new one; going for quantity is achieved automatically. In short, improvisation games provide idea grounds for the required mental state for brainstorming and problem-solving.

By now it should be obvious that ball games are easily invented, and that each one can work on a different skill. All games tend to help make the mind more supple and quick. A final example that is particularly challenging is cross association ball. This is a version of word ball that requires at least 2 balls to be in circulation, preferably more. As the players always catch the word tossed to them by repeating it, but the word they pass on to the next person is triggered not by the word, but rather by other words that have been recently thrown by someone elsewhere in the circle. What the player says is based on what is heard off to the side, like paying attention to all conversations at a cocktail party. Groups that are skillful at this game become ultra-sensitive to everything going on within the groups. They attend to both their direct interactions and their peripheral vision and hearing.

10. Did it work?

Two types of indicators were obtained to answer the question that "Do these improvisational exercises contribute to student learning and satisfaction?". First, as a practice, the author provides 2 forms of student reflective assessments at the conclusion of introducing a new learning pedagogy, such as "improv". Students had previously been introduced to the Kolb theory of experiential learning (Hackbert, 2005) and asked to make verbal end-of-the-exercise reflective comments immediately after the experience. As an out-of-class written assessment, students prepared ungraded written anonymous reflective comments. These written journal narratives are used to record the individual learning progress and when read by the instructor in the aggregate, the written journal permits midcourse adjustments. Samples of students' reflective journal at the end of the exercise are stated:

Student 1—"I was surprised at how well everyone in the class was open and participated. If I could do any part of this experience over, it would be to add on to the scenes more activity because it was a lot of fun, and everyone participated. There was a lot of energy in the room. Of the things I saw in this situation, I am eager and excited to attempt tapping into my creative mindset using acting techniques. From this experience I am most eager to practice the activities again to wake me up and get me into the creative mindset."

Student 2—"I was surprised when I was able to make people laugh with my imagination. Because of this, I want to host a residence hall impromptu night. I may look into acting in a school play. I will be less cautious to show my creativity."

Student 3—"I liked 'how I had to just jump in'. I had to get into the flow of the conversation and action. Creativity requires trust among group members. I can see and feel that we are acquiring trust. I was proud that I stepped a little out of my comfort zone."

Student 4—"What I have learned about myself in that creativity exercise was that its ok to be different, to be weird. I liked 'how we had to just go with me flow of things'. I was surprised when people who don't talk much in class got up in front of their peers and acted out imaginatively."

Student 5—"In the bang game, my greatest potential for improvement would be my listening skills. I learned that life can jump out at you therefore you always have to be ready for a challenge."

Second, Berea College institutes a standardized IEQ (Instructor Evaluation Questionnaire) across all courses at the end of each semester. At the end of the fall 2007, twenty-nine classes were assessed. The 14 fall-semester freshmen students rated this author's first teaching assignment at Berea College at or above the mean on all but 2 of 16 questions. Those 2 questions were: Question 11—Instructor's assignments were helpful to my (students') learning (author score is 3.9 and campus mean is 4.0) and Question 16—How would you rate this course (author score is 3.9 and campus mean is 4.0)? The obtained scores were reviewed and compared with the general education department's fall 2007 IEQ scores for all 29 freshmen classes. When the IEQs were compared to all freshmen general education classes, the findings indicated that the author's scores meet or exceed the general education class comparisons or state differently departmental standards.

Freshmen student written comments on the IEQs reveal on the whole that students were motivated, stimulated and inspired to meet the class objectives and class challenges. The course objective was to understand the importance and practices involved in being creative, inventive and innovative, which is a very bold objective for first-semester freshmen at Berea College. The majority of the students in the class (approximately 87%) labeled the class as either excellent or very good. It appears that the author was able to reach almost all of the class members with all of the students rating the overall teaching effectiveness indicator as average or above.

11. Conclusion

This paper has described how improvisational exercises and ball games borrowed from the world of improvisational drama can be used in general education courses to provide safe and enjoyable experiences which tap students' natural creativity. In addition to being fun to play, these ball games give the instructor numerous opportunities to talk about blocks to creativity and offer suggestions on how to overcome them. The net result is a marvelous introduction to brainstorming, piggybacking and leapfrogging. Overall, they greatly increase the trust, familiarity, enthusiasm and social skills that are needed to overcome inhibitions that often stand in the creative process. In addition, many of the techniques can be utilized in their own right as kinesthetic and verbal thinking tools.

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